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Mr. Clay Rodgers, Assistant Executive Officer
Sent via email to W. Dale Harvey, Senior Water Quality Control Engineer
California Regional Water Quality Control Board
Fresno, California

**TENTATIVE WASTE DISCHARGE REQUIREMENTS ORDER FOR SUN-MAID
GROWERS OF CALIFORNIA, KINGSBURG FACILITY, FRESNO COUNTY**

This letter transmits my comments on the subject Tentative Order. I am a resident of Fresno County and a California registered civil engineer with expertise in evaluating the effects to soil and groundwater from discharges of food processing and winery wastewater to land for treatment and disposal. I gained this expertise during the 11 years that I worked as a Senior Water Resources Control Engineer in the Fresno Office of the Central Valley Water Board.

General Comments

The Tentative Order does not characterize the discharge as thoroughly as the other offices. Most tentative orders for food processing wastewater discharges prepared by staff in the Board's other offices present detailed information on the types and volumes of cleaning chemicals used in food processing activities. In contrast, the subject Tentative Order merely states the discharge "contains a minimal amount of cleaning agents used in the process" (Finding 8). The Tentative Order indicates that Discharger did not characterize the discharge for salinity (e.g., electrical conductivity or fixed total dissolved solids) and, instead, characterizes discharge EC as 542 umhos/cm based on data obtained by a third party (Selma-Kingsburg-Fowler County Sanitation District). The Tentative Order should provide additional information on how estimated discharge EC was derived. The Tentative Order mentions the Discharger's submittal of two technical reports describing an analysis of the discharge for consistency with the state Antidegradation Policy (an October 2010 Antidegradation Report and December 2011 Antidegradation Analysis). Since the Tentative Order does not adequately characterize the discharge, it is difficult to understand how staff could have accepted these reports as complete.

Regarding waste characterization, the Tentative Order mentions a grit discharge, but does not characterize this discharge for waste constituents of concern. Since the discharge is typically acidic (low pH), there is potential for the wastewater to leach metals from metallic sumps, pipes and appurtenances. Staff should have required the Discharger to thoroughly characterize its discharge (wastewater and grit) for all appropriate waste constituents of concern prior to the development of the Tentative Order (including salinity and metal constituents). To require such waste characterization after order adoption is depriving Board members (and the public) of information necessary to evaluate the discharge for consistency with the Basin Plan and the State Antidegradation Policy. Also, Finding 14 indicates that the Discharger applied waste solids to perimeter areas and to the existing 45-acre Land Application Area (LAA), while the 2010 Report of Waste Discharge (RWD) states waste solids are not discharged onsite. This inconsistency in discharge practices is a cause for concern. How can the Board trust the Discharger to abide by

the terms and conditions of waste discharge requirements when the Discharger does not even abide by waste disposal practices described in its RWD?

Finding 15 describes the Discharger's proposal to expand its LAA by about 40 more acres, thereby increasing the total LAA acreage to about 80 acres. The finding states that the additional acreage will be used "for recycling of wastewater." The term "recycling" implies that the discharge is equivalent to "recycled water" as defined by California Water Code section 13050(n). This discharge contains extremely high concentrations of biochemical oxygen demand (BOD) and should not be considered as a "recycled water." **Recommendation 1: Replace "for recycling of wastewater" with "for treatment, reuse, and disposal of wastewater."**

Finding 17 concerns the Discharger's proposed BOD loading of 150 lbs/acre/day as determined by cycle average (in this case, one day of application followed by three to five days of rest). The finding characterizes the discharge as meeting the description of "Risk Category 2" defined in the California League of Food Processors' Guidance Manual. The finding states, "According to the Guidance Manual discharges to land under Risk Category 2 pose a minimal risk of unreasonable degradation to groundwater provided reasonable care is taken to properly manage the Land Application Area." Unless the Guidance Manual has been subject to an independent technical peer review, staff should not cite this Guidance Manual's statement as a finding of fact. BOD loadings rates that may be effective for precluding nuisance conditions (i.e., EPA's decades-old recommended BOD loading rate of 100 lbs/ac/day) may not be sufficiently low to preclude unreasonable groundwater degradation, especially in this situation where deeper unconfined groundwater is of exceptionally high quality. Land treatment creates alkalinity and dissolves calcium and other minerals from the soil. Unless sufficient soil attenuation exists, these decomposition by-products are released to groundwater thereby increasing its salinity. Treating wastewater for BOD removal *prior* to land application can preclude this form of salinity degradation and should be determined necessary to be consistent with the state Antidegradation Policy. **Recommendation 2: Revise Finding 17 to state whether or not the Guidance Manual has been subject to an independent technical peer review.**

The Tentative Order briefly describes how groundwater flowing under the existing LAA has been degraded by EC, TDS, sodium, calcium, and sulfate. Finding 46.a states, "To ensure that the discharge authorized herein does not have similar results, this Order requires the Sun-Maid to incorporate a minimum three day discharge cycle (e.g., one day of application followed by two days of rest). This combined with a cycle average BOD loading rate of 150 lbs/ac/day or less should prevent organic overloading of the Land Application Areas." This conclusion by staff appears to be more like wishful thinking. Also, the cited BOD loading rate has nothing to do with groundwater impacts from sodium and sulfate releases, apparently caused by the Discharger's repeated gypsum applications to the LAA to correct soil problems presumably caused by the discharge. **Recommendation 3: Revise Finding 46.a to describe the technical evidence supporting the conclusion that the prescribed BOD loading rate "should prevent organic overloading" (or provide the evidence elsewhere in the Tentative Order). Please do not simply respond to this comment by stating the prescribed BOD loading rate is typical of other food processing waste discharges unless staff has groundwater data that supports this conclusion.**

Finding 47 lists discharge treatment and control features and Finding 48 states that those features “are reflective of BPTC of the discharge.” How can staff determine the discharge reflective of best practicable treatment or control when the Discharger: (1) failed to include in its RWD an adequate characterization of the discharge and its potential to degrade groundwater, and (2) does not treat for BOD removal prior to land application as done by other similarly situated dischargers. Granted, the Discharger’s sprinkler application of high-strength food processing wastewater is better than discharging the waste to a deep unlined pit, as is still done by some raisin processors, or to checks as is done by neighboring Vie-Del Plant #2. But, staff can hardly characterize the discharge as reflective of **best** practicable treatment and control when other dischargers of similarly high-strength waste treat their waste prior to land application in above-ground tanks (e.g., Caruthers Raisin Packing Company) or in Title 27 equivalent surface impoundments (e.g., POM Wonderful LLC). Staff should provide Board members (and the public) with sufficient information to support its conclusion that this discharge is reflective of BPTC and that the resulting degradation is in the maximum public interest.

Since groundwater already contains nitrate in concentrations exceeding the water quality objective, how is just requiring nitrogen be applied at rates not exceeding agronomic demand going to ensure the discharge does not contribute to nitrate pollution? To protect groundwater from additional nitrogen releases, the Board should set the nitrogen application rate not to exceed 75% of agronomic rate, even if this means the Discharger will net slightly less yields of Sudan grass and winter wheat. **Recommendation 4: Establish the maximum nitrogen application rate to not exceed 75% of the crop agronomic demand.**

Other Comments

In several places, the Tentative Order presents values for discharge flow in units of gallons per day, but identifies the flow units as “mgd” (million gallons per day).

I offer these recommendations in the hope that staff will revise the Tentative Order accordingly, or provide justification why staff believes the recommended changes are not warranted.



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